

ANIMAL EXTRACTS IN RHINOLOGY AND LARYNGOLOGY

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THE extract of suprarenal gland has been of great use to specialists in rhinology and laryngology, and chiefly for the purpose of reducing hæmorrhage.

I have for years been in the habit of injecting 10 per cent. solution of adrenalin in the tissues over the mastoid just prior to any operation upon that bone, with the result that bleeding has been thereby greatly reduced, and the operation shortened in the time required for its performance.

In operations upon the nose adrenalin is now usually combined with whatever strength of solution of cocaine may be required, as thereby is not only bleeding lessened, but anæsthesia is greatly prolonged, and in addition a much greater strength of cocaine may be used without symptoms of toxicity being produced, because the adrenalin prevents deep absorption.

In the operations of sub-mucous resection of the septum and of the tonsils, I am in the habit of combining 10 per cent. of suprarenal extract with $\frac{1}{4}$ per cent. of novocain solution, and injecting this freely. The result is that an almost bloodless operation is secured, and anæsthesia is prolonged even to an hour. This of course is only used in cases where a general anæsthetic is not essential.

The extract is also used in pure solution in cases of epistaxis to stop the hæmorrhage and at the same time isolate the point of erosion. After this cocaine may be applied and a caustic or the cautery used. The combination of cocaine and adrenalin is again extremely useful when we wish to reduce the œdema present about the ostia of the accessory sinuses and the mouth of the eustachian tube, when it is desired to wash out these cavities or inflate the tube.

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In the larynx the same remark holds good when we are dealing with œdema, or desire to reduce swelling in order to examine or make applications. I have lately been using hypodermic injections of 5 to 10 minims of the extract, twenty to thirty minutes before passing the bronchoscope or the œsophagoscope, and believe that this measure has been followed by a reduction of the spasm of these tubes.

I have also used similar injections for relief of asthma, but I have not tried the spraying of adrenalin into the bronchial tract through the bronchoscope as recommended by Ephraim in the *Berliner klinische Wochenschrift*.

The extract has also been recommended to define the limits of malignant and lupoid infiltrations, in Quincke's disease when affecting the larynx, and to reduce pain in inoperable malignant disease of the larynx. I have not tried it in any of these.

It has been stated by Sir St. Clair Thompson that a mixture of cocaine and suprarenal extract when combined with a light general anæsthetic helps to reduce shock, but I reported four years ago a case of acute toxæmia attended by acute cardiac dilatation, where a mixture of a 2 per cent. solution of cocaine with an equal amount of full strength adrenalin solution was injected into the tonsils and where there seemed every reason to believe that the cocaine was not at fault. In the same article I referred to a case reported by Hubbard where a patient, a healthy young man under general anæsthesia for a septal operation with every reflex normal, and respiration perfect, was given 15 to 20 minims of adrenalin chloride solution for hæmopytysis, and died.

I have not had any experience with the other animal extracts, but I see that Houssay in the *Wien. klin. Woch.* recommends a combination of pituitrin with suprarenal extract in the proportion of 1 c.c. of the former with 4 to 5 minims of the latter, and states that this mixture may be injected to overcome shock and also that the combination of the drugs intensifies their astringent action, and makes for a very protracted and efficient vaso constriction.

I am initiating some experiments with the use of these latter extracts in otosclerosis, but have nothing at present to report.